

IN THE CLAIMS

1. (currently amended) A method of selecting, from among N ["]Spatial Video CODECs["] where N is an integer number greater than 1, the optimum ["]Spatial Video CODEC["] for a same input signal I, comprising the following steps:

obtaining from all the N ["]Spatial Video CODECs["], for the same input signal I and a same quality parameter Q, a rate R and distortion measures D, Q being an integer value between 0 and 100, defined by any rate-distortion algorithm to provide a compression of the input sequence with constant rate or with constant distortion, and

calculating an optimality criterion by using the value $L_n = f(R_n, D_n)$ calculated for all the n from 1 to N, n being the index of the ["]Spatial Video CODEC["], where $f(R_n, D_n)$ is a function of R_n and D_n ,

wherein the Spatial Video CODECs are aligned according to the a theoretical MSE and the quality parameter Q, MSE being the Mean Square Error and computed as $MSE = \frac{\Delta^2}{12} = \frac{(2^{(C_1-Q/C_2)})^2}{12}$ for the case of uniform quantization with an average step Δ defined as

$\Delta = 2^{(C_1-Q/C_2)}$ where C_1 controls the minimal and maximal quality and C_2 the variation of the distortion according to quality parameter Q,

wherein the optimally optimality criterion is defined as the minimization of said value $L_n = f(R_n, D_n)$,

wherein said function is defined as the Lagrange optimization $f(R_n, D_n) = R_n + \lambda D_n$,

and wherein the Lagrange multiplier that weights weighs the relative influence of the rate R and of the distortion D is defined as $\lambda = \frac{1}{2 \cdot \ln(2) \cdot MSE}$.

2. (previously presented) The method according to claim 1, wherein the input signal I is a natural image or a predicted image or any rectangular sub-block from a minimum size of 2x2 of the natural image or of the predicted image.

3. (currently amended) The method according to claim 1, wherein the rate R of the n -th ["]]Spatial Video CODEC["]] is approximated by $R = \alpha(N_T - \sum_{x_i=0}^{|x_i|<\Delta} N_{x_i})$, where N_{x_i} is the number of coefficients with an amplitude equal to x_i , N_T is the total number of coefficients, and the parameter α is derived from experimental results.

4. (currently amended) The method according to claim 1, wherein the distortion D of the n -th ["]]Spatial Video CODEC["]] is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i|\geq\Delta} N_{x_i}$ where x_i is the amplitude of the coefficients and N_{x_i} is the number of coefficients with an amplitude of x_i .

5. (currently amended) The method according to claim 2, wherein the rate R of the n -th ["]]Spatial Video CODEC["]] is approximated by $R = \alpha(N_T - \sum_{x_i=0}^{|x_i|<\Delta} N_{x_i})$, where N_{x_i} is the number of coefficients with an amplitude equal to x_i , N_T is the total number of coefficients, and the parameter α is derived from experimental results.

6. (currently amended) The method according to claim 2, wherein the distortion D of the n -th ["]]Spatial Video CODEC["]] is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i|\geq\Delta} N_{x_i}$ where x_i is the amplitude of the coefficients and N_{x_i} is the number of coefficients with an amplitude of x_i .

7. (currently amended) The method according to claim 3, wherein the distortion D of the n -th ["]]Spatial Video CODEC["]] is approximated by $D = \sum_{x_i=0}^{|x_i|<\Delta} x_i^2 N_{x_i} + \frac{\Delta^2}{12} \sum_{|x_i|\geq\Delta} N_{x_i}$ where x_i is the amplitude of the coefficients and N_{x_i} is the number of coefficients with an amplitude of x_i .